

Title (en)

MILLING INSERT AND MILLING TIP-REPLACEMENT-TYPE ROTARY CUTTING TOOL

Title (de)

FRÄSEINSATZ UND ROTIERENDES SCHNEIDWERKZEUG ZUM AUSTAUSCH VON FRÄSSPITZEN DAFÜR

Title (fr)

PLAQUETTE DE FRAISAGE ET OUTIL DE COUPE ROTATIF DU TYPE À REMPLACEMENT DE POINTE DE FRAISAGE

Publication

EP 2633932 A4 20161019 (EN)

Application

EP 11836306 A 20111026

Priority

- JP 2010240682 A 20101027
- JP 2011074605 W 20111026

Abstract (en)

[origin: EP2633932A1] Disclosed is a milling insert, in which cutting resistance is reduced, wear advance of cutting edges is suppressed, and elongation of a lifetime is achieved, and is an indexable face milling cutter. When flanks 22 are viewed from the above, a cutting edge ridge line 23 is formed into a waveform shape, in which bottom portions are formed into concave circular arc portions 23b, top portions are formed into convex circular arc portions 23a, and the concave circular arc portions 23b and the convex circular arc portions 23a are alternately repeated, both of the concave circular arc portions and the convex circular arc portions are a 1/4 circular arc or more to a 1/3 circular arc or less, and each of the concave circular arc portions is unevenly located at a position close to one of two convex circular arc portions adjacent to the concave circular arc portion, and far from other of the two convex circular arc portions. A virtual chord that connects both end points of each of the convex circular arc portions to each other is inclined to the concave circular arc portion closer to the convex circular arc portion concerned, the concave circular arc portion being one of the two concave circular arc portions adjacent to the convex circular arc portion. The ridge line is formed at a gradually narrower pitch at a time of being traced with respect to the concave circular arc portion toward a direction where the convex circular arc portion closer to the concave circular arc portion is present, the convex circular arc portion being one of the two convex circular arc portions adjacent to the concave circular arc portion.

IPC 8 full level

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CPC (source: EP US)

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Citation (search report)

- [Y] EP 2060352 A1 20090520 - MITSUBISHI MATERIALS CORP [JP]
- [Y] JP 2003039225 A 20030212 - MITSUBISHI MATERIALS CORP
- [Y] US 5709907 A 19980120 - BATTAGLIA FRANK B [US], et al
- [Y] US 2005111925 A1 20050526 - SVENNINGSSON INGE [SE], et al
- See references of WO 2012057173A1

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EP3135716A4; US11440270B2; WO2017216172A1

Designated contracting state (EPC)

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DOCDB simple family (application)

EP 11836306 A 20111026; CN 201180051369 A 20111026; JP 2011074605 W 20111026; JP 2012540898 A 20111026; US 201113882290 A 20111026